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NUCLEAR PLANT IN CHINA

BY A SPECIAL CORRESPONDENT RECENTLY RETURNED FROM CHINA

THE Chinese Atomic Energy Commission has perfected a new gas centrifuge process for separating Uranium 235 and lighter isotopes from Uranium.

The plant where the new process is employed has been in full-scale operation for six months. I was permitted to inspect most sections of the plant, which is situated in a remote Chinese Province and is completely undetectable from the air.

The process has proved much more efficient than that earlier employed at the enormous gaseous diffusion plant at Lanchow, which consumes enormous amounts of electricity specially generated by a hydro-electric plant situated upstream in a gorge of the Yellow River.

Some sections of the Lanchow plant are now redundant, and are to be closed down. The generating capacity which will then be made free is to be used for other purposes.

The new process resulted from the work of Dr Chou Pei Yuan (who was a post-graduate research scientist at the University of California at Berkeley some years ago); and a colleague who took his doctorate at the Massachusetts Institute of Technology. Their collaborators on the

theoretical side included Dr Tsien San Tsiang and his wife, Peng Tei Fri. Dr Tsien is a former colleague of Professor Joliot-Curie.

Two further processes in large plants on which have been in operation for nearly a year are an electromagnetic.

Experimental work on a large scale is still proceeding on an electromagnetic process. A plutonium-producing process, however, is stated to have been in full operation for nearly a year. I did not see this plant.

A new plutonium-producing process, however, has been in full operation for nearly a year in a 1,500 million watt reactor in another concealed and remote area. This process is fundamentally different from that used in the three old reactors near Paotaw, Inner Mongolia.

I was not able to see the new plutonium plant. However, it was stated that its production is sufficient now for the manufacture of enough enriched uranium to make several fusion type bombs each year. The first such bomb is expected to be tested this year, and certainly before the end of 1968.

The "Cultural Revolution" has had no effect on rocket development work, some of which I was able to see in western Kansu, near Chingchun. The major part of the experimental work, however, is carried on in an even more remote area to the North West, under the direction of Dr Chien Wei Chang, who trained at the California Institute of Technology, Dr Wei Chang Hui, who trained at M.I.T., Dr Chien Hsueh Shen and Dr T. Y. Siao, who returned only last year from Russia.

FEAR OF U.S.A.

The discovery of the new uranium ore deposits in China, together with concentrations of other minerals which had previously to be imported, makes China now wholly self-sufficient and self-contained in the nuclear field.

The Advanced Institute of Theoretical Physics and Mathematics has been completely untouched by the "Cultural Revolution". It is now under strict control.

The justification given for the sides for the diversion of so much of the national income to nuclear research falls into two categories. The first is that much of the research and work being done will increase electricity generating capacity and provide increasing amounts of power demanded by industry.

The major reason given, however, is fear of an attack with nuclear weapons by the Americans, the need to have a ready reply, and the national refusal to bend to nuclear blackmail.

Whether or not the fear of America is really as deep as it is reflected not only in the controlled newspapers, but even in technical journals.

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